# Monthly Bulletin

## Michigan Society of Architects

April 1974
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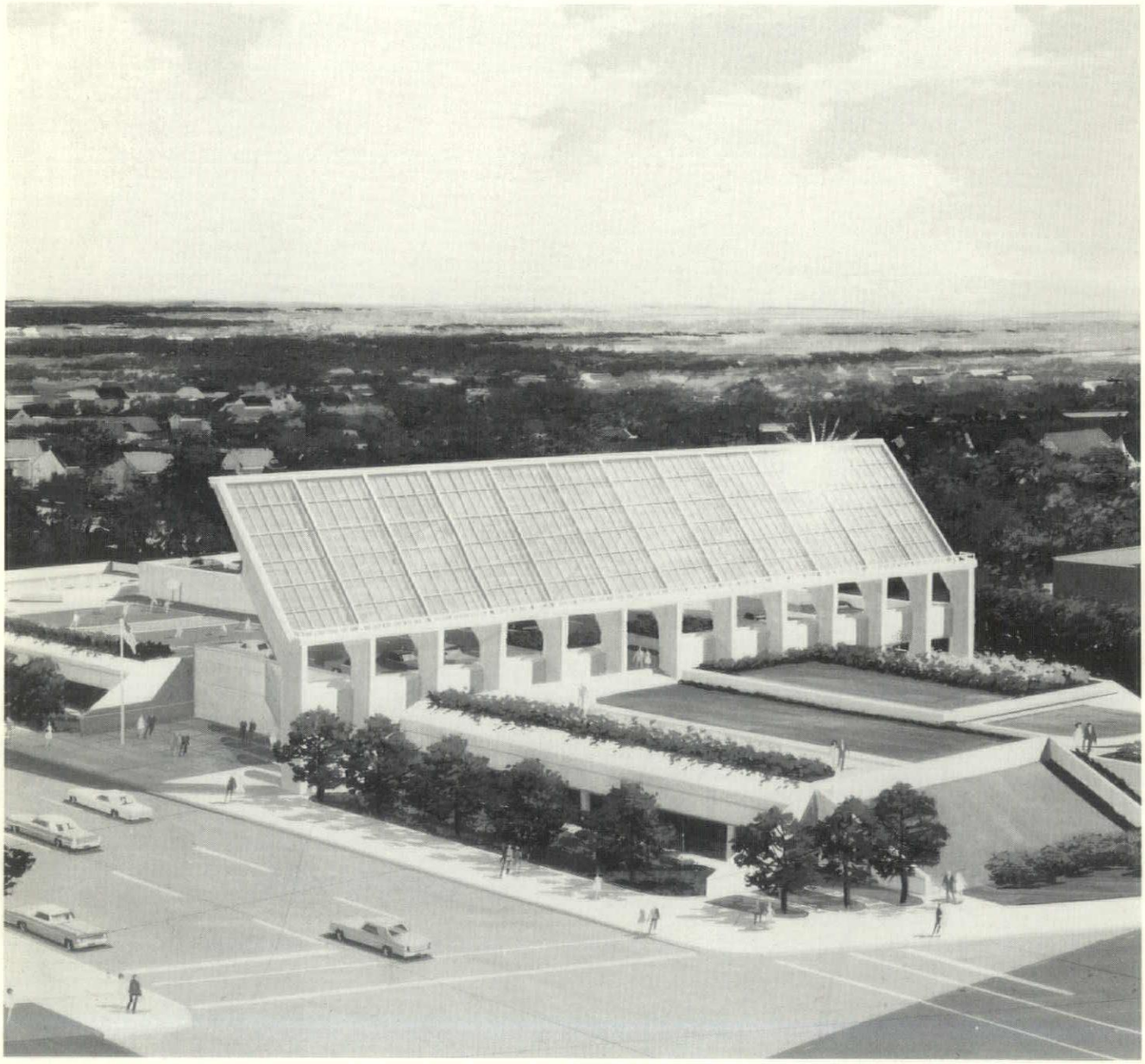

Monthly Bulletin

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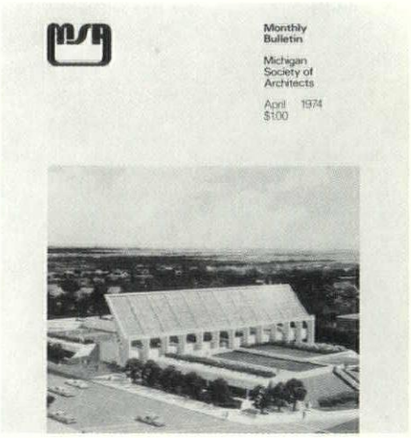




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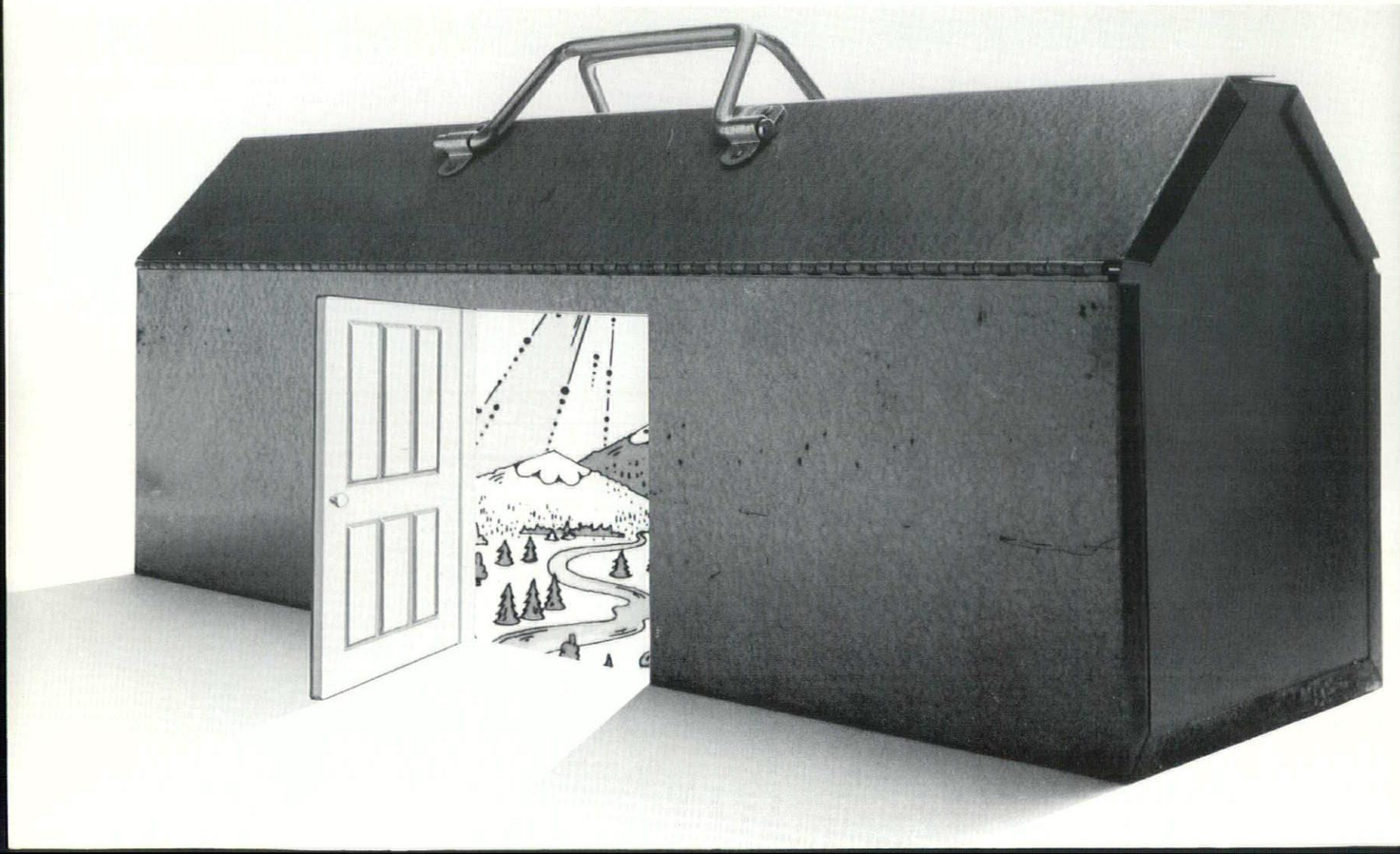


# The Process of Architectural Examinations

Thomas J. Sedgewick
Past President, NCARB

## BACKGROUND

Some ten years ago, the National Council of Architectural Registration Boards, NCARB, started to take a serious look at the examination-registration process. In the past, the examination has been based on the ideal that the total sum of knowledge necessary for architects could be handily subdivided into seven major categories. That is, it was merely necessary to examine in each of these seven categories to determine whether an applicant had the necessary expertise to be able to adequately protect the public health, safety, and welfare.

This process in actual practice also became narrowly applied to only health and safety. It lacked consideration of welfare as welfare applies to the total man. Welfare is a term that is much broader, and does include feeling, stimuli esthetics; in other words, the development of a humane environment over and above the very narrower definition of engineering for safety and health.

The first step in this ten year process was to derive a multiple choice examination, utilizing as a model the seven part examination. It was determined that five parts of this examination including, structures, building equipment, building construction (specifications), professional administration, and architectural history and theory could be utilized in a multiple choice format. This was done, and by 1966, at State Boards of Registration were utilizing these five parts, and also with separate design and site examinations to test planning, design and the ability to handle graphical solutions.

## DEVELOPMENT

As the first step was implemented, the second step in the process was to start developing an examination that was attuned to our society and its needs. The former examination, while supposedly adequate for the protection of health and safety, did not adequately consider total environment, present day modes of practice, or the architect's response to his community. The format of pre-supposing compartmentalization of knowledge within the field of architecture, flowed against reason and fact of architecture as a profession. As a profession, Architecture draws upon numberous fields of knowledge, so that the real ability of an architect becomes the ability to assemble this knowledge and use it. In fact, he has to be more of a generalist with the ability to arrive at a total solution, than to be a technical specialist with knowledge of only one facet of the total profession. To truly look at the architect as a tactician rather than a technician hastened the development of the new examination. In no way did this militate against the development of specialties within the profession.

This past year the first examination in a developing process was put on the line and utilized. The examination today, recognizes the resources available to the profession, and attempts to relate their influence upon the total process. Therefore, to develope the broad types of professional skills necessary, strong consideration was given to the place of the professional school as well as the experience, and training portion of the architect's overall development. In order to more clearly define this, the process as set up, provided for an ultimate professional examination. This examination was to be given to all candidates that are graduates of accredited schools of architecture, and have the necessary training-experience as reflected in their state laws.

To provide an alternate route for those that have the desire, the ability for self-study, and the necessary discipline to acquire the knowledge, another examination was developed. This examination, which is known as the equivalency examination, is given to all candidates for registration as architects who have not graduated from accredited schools of architecture. They, however, have evidenced the discipline to acquire the necessary knowledge to take their place in the profession of architecture. Upon passing of the equivalency examination, they are then allowed to sit for the professional examination along with all other candidates. Upon passing the examinations, they are then registered in their individual states for the practice of architecture.

EXAMINATION

The new professional examination is divided into four parts, based on one problem of sufficient scale to test all facets of an architect's education and training. The four parts consist of environmental analysis, programming, design, and construction. The four part structure does not mean that each part rigidly tests for only one facet of knowledge. Each part is inter-related to all other parts, and also related to a single problem and its solution. It also places a candidate both in the postion of designing and planning, as well as in the position of critiquing work that is presented. The utilization of this particular framework provides a more adaptable and flexible method of keeping up with the changes in practice as we see them about us today. It is a basic skeleton upon which societal needs and changes, as reflected in our practice, can be accomodated and tested.

The equivalency examination is based upon the transmission of specific knowledge for the ability to do an individual building, and that a person has adequately had transmitted to them the basic skills in design, planning, and technical considerations of the practice of architecture. The professional examination covers the same area in more depth as well as bringing to bear other facets of practice.

Several questions still remain as to the utilization of this particular process of examination as used for the first time last year. Some of the various state boards do not want to give up the graphics portion of the examination. They still desire to have the imput to determine whether a candidate, in their estimation, adequately measures up in the area of design. They still do not feel that a multiple choice examination is a vehicle that can answer this particular problem. This could raise a serious problem with reciprocity between states in the future, and therefore hard consideration is being given to it this year. Whether a graphics examination should be continued as part of the professional level exam will have to be answered.

QUESTIONS

In surveying the profession, it was found that practitioners who are in the position of hiring graduates of architectural schools, are by and large, well satisfied with the graphic and design training that graduates of accredited schools receive. Better than 95% of the practitioners respond that the schools of architecture provide excellent to fair training in design. At the same time, in their opinion, the education received at the point of graduation in the various areas of technical expertise, is on a descending order from best in theory to worst in professional administration.

The seven part examination, formerly utilized, has exactly the reverse results in terms of examination. The actual examination results were the candidates rate lowest in design and close to highest in professional administration. We must remember that there is at least a three year differential between the point of hiring and the point of examination. The practitioners, looking at the candidate immediately out of college rated only his education; while the exam results are after the

candidate has had training in actual office situations. However, it does raise a whole series of questions that must be resolved in order to adequately answer whether graphics examination should be eliminated.

The graphics examinations, that is design and site, as presently utilized, may be too much of an artificial situation; a problem solution of the type that actually does not exist in practice. To sit down and totally work out the plan layout, and to design a building in a twelve hour time limit, just is not a normal situation as actually exists in practice. Also, in grading the graphics examination, candidates do not have the opportunity to explain the thought process that went into the solution.

Do the results raise the question that the examinee is more capable at the end of his school training, than at the end of his actual 'on the job' training period? Is there something that takes away the design edge within a three year interneship (four years in Michigan) period that might tend to get a candidate to look at work other than planning and design?

Another interesting facet in the graphics examinations as given, is the extremely wide discrepancy in grading of this examination. The fact that these examinations are graded either by individual State Boards, or groups of State Boards under a jury system, produces a wide discrepancy of passing people with theoretically the same backgrounds, depending on where they take examinations. Why is it, that in one area of the country, up to 80% of the candidates for examination can pass design and site, and in another area of the country only 29% can pass? This reflects strongly upon the selection of the peer groups doing the grading.

The above questions as related to graphics examinations have not been answered yet, but as mentioned, the examination is an on-going, developing process. It might be that the design examination should be added back into the process. It is a problem that we are wrestling with at the present time.

## EXAM RESULTS

The first professional examination, given in December 1973, saw 65% of all candidates, nationally, passing this exam. The figure for Michigan was 60.6% passing. Of all these candidates, nationally, 96% had degrees from accredited schools of Architecture, and 4% had taken the equivalency exam to be able to sit for the professional exam.

For comparative purposes, utilizing only the graduates of accredited schools, who took the last seven part examination for the first time in December 1972, the percentages passing nationally were:

| | |
|---|---|
| History and Theory | 86.6% |
| Professional Administration | 85.6% |
| Building Equipment | 85.3% |
| Building Construction | 74.2% |
| Structural | 71.5% |
| Site Planning | 57.6% |
| Design | 56.1% |

The median of these averages is 73.8% passing. It is not necessarily true that this median represents the total percentage registered, for the total percentage passing all seven parts is lower.

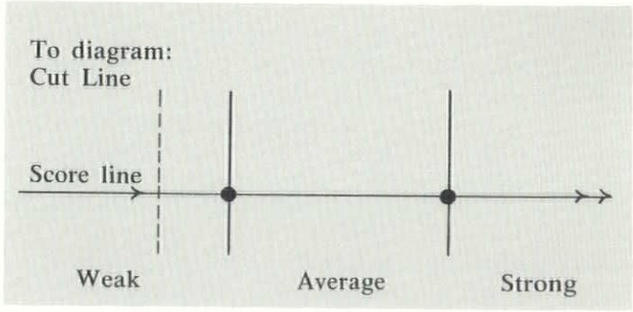
In order to pass the new examination, any candidate had to meet three requirements. These include minimal scores in each of the four sections, as well as an aggregate score approximately 20% higher than the summation of the minimal scores in each section. Additionally, regardless of aggregate score, failure to receive a minimal score in any of the four sections also constituted failure.

As a hypothetical case, say that the minimal cutting line for failure in any of the four sections, i.e. environmental analysis, programming, design, and construction, was fifty (50). On the basis of a cut line of 50 to pass each section minimally, a candidate could pass all four sections with a score of 200. However, to pass the entire exam, his aggregate score would have to be a minimum of 20%higher, or 240. Any score between 200 and 240 still constitutes failure on total exam.

Therefore, a candidate, to pass must in our example:

1. Have an aggregate score of 240.
2. Even with an agregate score of 240 or more, cannot score less than 50 in any of the four sections.
3. Meet the minimum cut line of 50 in each part.

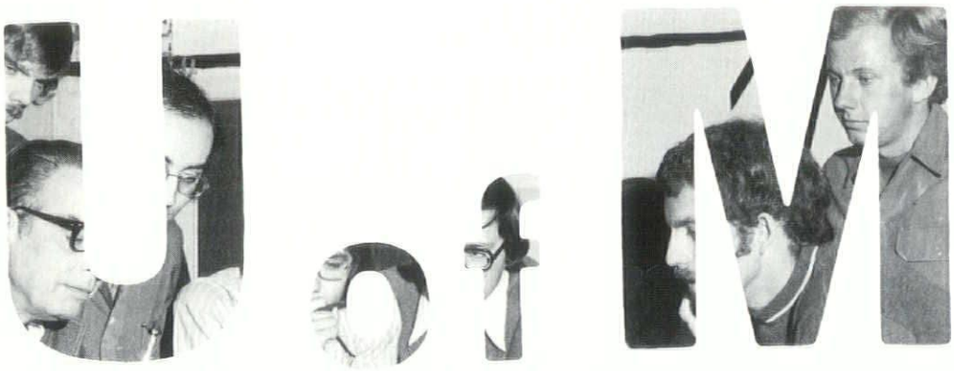
In addition, each candidate is given a relative evaluation of performance in each section. This is to aid him, either for preparation for future examinations or flagging areas that need emphasis. The evaluation consists of classifying his performance as strong, average, or weak in each section. It is a relative evaluation for it guages each candidate against the top 25%of the group, and is not related to the minimal cutting line in any section of the exam.




## CANDIDATE PERFORMANCE EVALUATION

Due to the relative nature of this evaluation, i.e. guaged against the top 25%, it is possible for a candidate to be classified as weak in all four sections and still pass the total exam. However, it is not too probable. Also a candidate can be strong in one section and still fail.

Recognizing that this examination is a brand new examination, never utilized before, with a different format from the past, possibly after some familiarity with it, the national pass average may rise. Possibly it won't, maybe the complexity of the material in considering design in a total environmental scene, will show that the people that have the ability to assimilate this kind of total knowledge will stay in the range of the first national examination passing averages.



# Response to the Changing Profession

Authors: Harold Himes, AIA, Keith Brown, AIA

It has been assumed, under the concepts of the licensing and registration acts of the various states, that there exists a distinct body of knowledge which can be definitively described, effectively taught, logically and objectively examined, and required under law to be completely utilized on each architect-client relationship. It is the responsibility of the various state boards of examiners, under the directions established under law in each of the states within the provisions for the protection of those citizens under the police power in the areas of public health, safety and welfare, to so define and then examine each candidate concerning such body of knowledge. It is further assumed that successful performance in required examinations will demonstrate the candidates' ability to practice architecture.

Prior to the utilization of the examination prepared by the NCARB the various examinations broadly, and often vaguely, defined the subject matter to be examined. The specific content of the examination was delegated by law to the discretion of the particular individuals who comprised the board of examiners and those selected by that board to write and grade the examinations. Under the examinations prepared and graded by NCARB there are very specific outlines which define and state the particular subject matter to be covered and the definite degree of knowledge the applicant is expected to have in relationship to that subject area. It should be pointed out that while the degree of knowledge is explicitly stated, such statements are defined in the vaguest of terms, i.e., cognizant of, should understand, etc.

The concept that the schools of architecture were responsible for training in the basic skills and major theoretical constructs, with the professional offices and organizations responsible for providing for the application of these skills and theories along with the development of knowledge and experience in the areas of administration, management, construction, contracts, etc., is still in existance. However, it seems that with the attempted specificity of the new examination, the question remains concerning who shall bear the responsibility for coverage of each subject area, as well as the adaptibility of subject matter to the rapidly changing requirements of architectural practice, the proper definitions of what architecture is, and who is an architect.

In the recent past, and still is today in many schools of architecture, the curriculum was standardized for all students; that is, each student took pretty much the same course work with limited electives or options available in the required curriculum. Thus, we could expect that each graduate had been exposed to the same base, and the individual variations in the graduates were those of skill, motivation and interest. However, as considerable more emphasis began to be placed on the expanding nature of architectural practice, so also was considerable emphasis placed on the schools of architecture on the expanding availability of choice in subject areas related to the professional education of the architect. The specific curriculum changes cover a wide spectrum in the various schools and similarities between schools are diminishing. It is necessary, therefore, to explain what changes have occurred in the department of architecture at the University of Michigan in order that the expectations of the profession regarding our graduates and students be consistent with the capability of their performance.

As explained in the diagrams, the curriculum is tripartite and based on distinct educational exposure in three definite time periods. The curriculum assumes that the definition of an architect is that of the generalist primarily concerned with the problems of human habitation with provisions for in-depth study in specific problem areas of concern to society, the profession, and the student. Further provisions for the latter are made in the program leading to the degree Doctor of Architecture.

The first of these periods provides a base of general education in the areas of basic sciences and the humanities, and is a pre-requisite for admission into

this department. This part can be accomplished in any accredited community college, college, or university. This is why there are no specific requirements in professional course offerings such as graphics, drawing, history, etc. It is required that basic requirements in math, physics, chemistry, etc. be fulfilled in this period. It is hoped that the student elect courses of study that would provide him with a basic understanding of the man/society relationships in an historical and developmental context in order to understand the problems of today along with the ability to provide reasonable projections into the future.

The second two year period, the core studies, comprise those areas of professional education necessary as a base for all architects, i.e., a definitive body of knowledge and demonstrable skills.

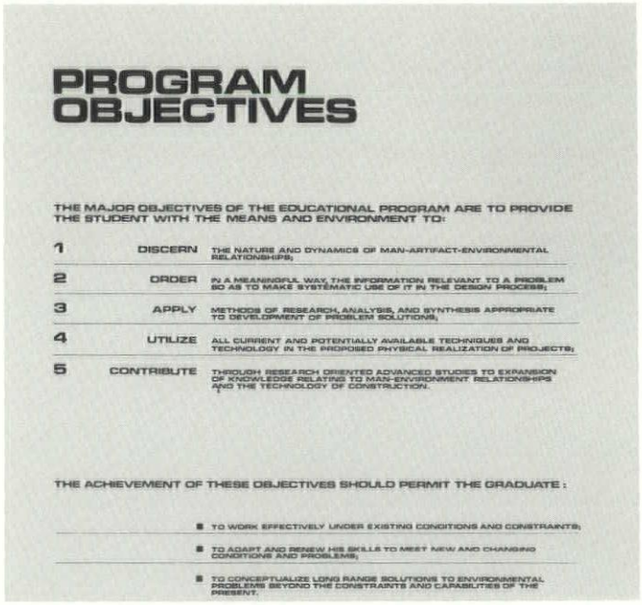
The third and fourth years of the Architecture curriculum at the University of Michigan, called the Core Studies, are for many students their first training in architecture. This two year program is a highly structured series of required courses covering the "basic body of knowledges of Architecture". The program includes studies in architectural design, design method, structures, environmental technology to include mechanical, electrical, and acoustical subjects, building construction methods, history and theory, visual studies, graphics, urban planning computer studies, and landscape architecture and electives in other areas if the student can fit them into their busy and tight schedule. At the completion of the core studies program, i.e., four years of schooling, the student has all of the training that they would have previously received in the former five year program. The extra year allowed for additional experience and maturity that will be gained in the fifth and sixth years of schooling.

At the conclusion of the fourth year, the student will have been exposed and taught all of the basics required to totally design and integrate all systems in a medium size multi-story building and understand all of the other factors that may influence it such as history, social factors, zoning, and construction. The student may receive a Bachelor of Science degree at this time, if they wish. This degree is not recognized as an Architectural degree by the NCARB as credit towards the exam. The degree does allow the student to leave and pursue other academic programs such as law or business administration or to leave with a degree and enter a related area such as Contracting, or into industry that would not require the person to be registered as an architect.

How can a student in four years gain what was previously taught in five years, you may ask. This has been done by eliminating many of the basic courses such as "basic drafting techniques" and incorporating these skills directly into design and problem solving courses. This eliminates hours of time constructing shades and shadows on blank cubes and now this is done on building designs immediately. This is not without it's frustrations at times from both student and faculty, but the intent is to gain as much knowledge relevent as quickly as possible, and apply it as quickly as possible. The courses are also better integrated. This means that they will engineer a structural system in structures class for the design project from design class. The faculty works together so that the integration of these systems are more applicable to the student and to his interests.

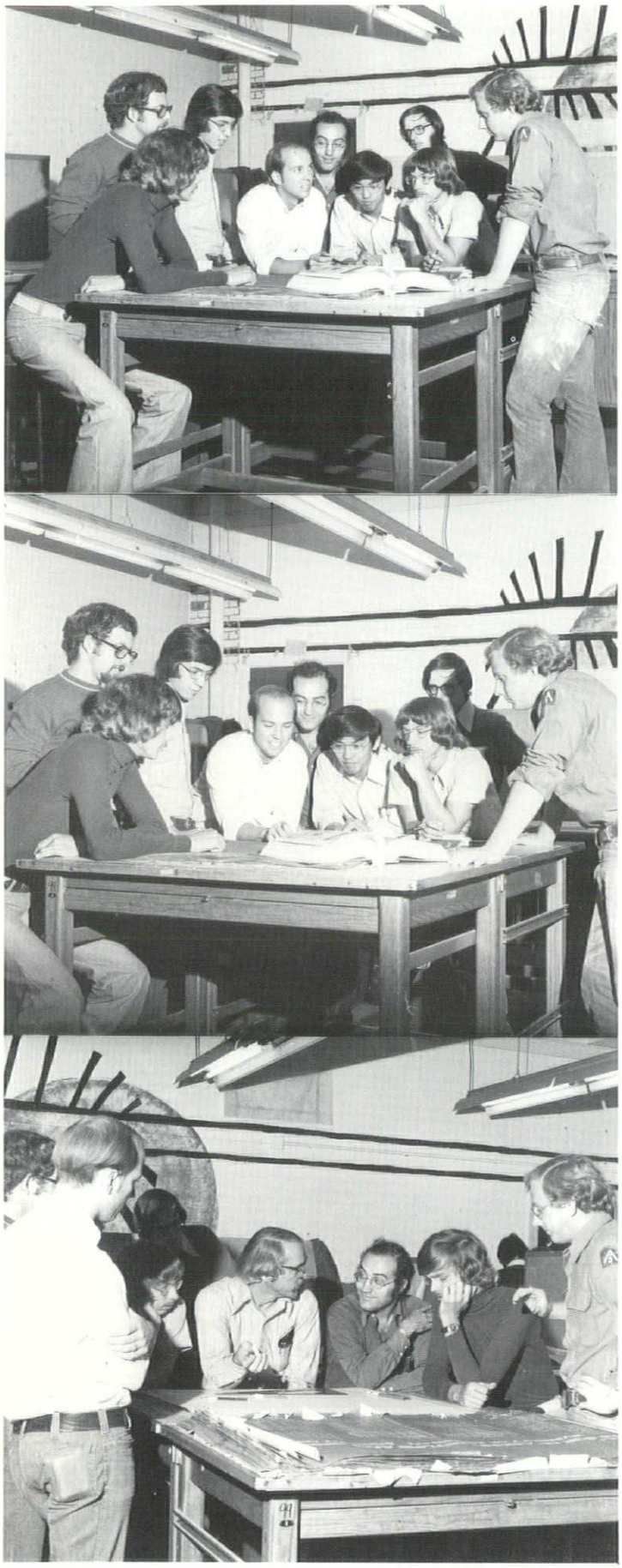
Students at the end of the fourth year, have also been exposed and taught far more engineering technology than in the former five year program. This is largely due to the computer. They can now do far more complex and thorough analysis of areas that influence the final outcome of their designs. The knowledge that they have in the use of the computers is far beyond the capability of the typical architectural office that they will work to gain the professional experience required not only for the registration exam, but for experience to be an architect.

Because this body of knowledge can be reasonably well defined, it is possible, if not essential, to rather rigidly structure both the sequence and the content of subject areas. The concept of the final two years is, however, very loosely defined both in content and sequence. The emphasis here is directed to the breadth and depth of the total scope of professional responsibilities. Thus it is necessary to provide for the student an exposure, at an advanced level, to the broad spectrum of these professional requirements and areas of involvement, as well as to provide the possibility for in-depth study in specific areas. Thus the stated objectives can be described below.




Because the emphasis in the pre-professional and core studies is primarily related to objectives 1 and 2, emphasis in the advance studies is on objectives 3, 4 and 5. It is the considered judgement of the faculty of this department that demonstrable professional competence in fulfilling all five objectives is essential to the qualifications of an architect that we do not, therefore, provide a professional degree at the end of the fourth year of college studies.

Other than requirements related to the amount of problem solving experiences, the sequence and content of the two year period of advance studies is the responsibility of the individual student to determine. On the surface, this extreme amount of flexibility could lead to complete chaos with the student acquiring little



meaningful educational or professional experiences. However, in reality, there is the essential ability to continually mold the program content to the rapidly changing demands of society, the profession, and the student, without decreasing the essential elements of architectural education.

The program of advance studies provides for a much closer integration of all those concerned and responsible for the training and education of the young professional at all levels. Many of the students are taking one or two years at the completion of the core studies and working in various offices before coming back to complete the degree requirements. This is a completely different context that the previous routine of just summer employment, because during this longer period of professional exposure the practicing professional has a greater opportunity, as well as a responsibility, to influence the direction taken by the student. The demands placed upon the department require a comprehensive identification of the available resources needed to satisfy these demands, a determination of where they are located, and then to bring these and the student together. Such resources may take the form of an individual, a specific course offering, a government agency, a particular office, geographical locations, etc. For instance, a student interested in the problems of marketing and management is placed in the Philadelphia office of Weld Coxe, an expert in marketing architectural services and management, rather than in abstract courses offerings in the School of Business Administration. A student will spend some time in the Bureau of Standards, a particular person is brought to the university for a series of lectures or laboratory participation, etc. By the same token the resources in the department, such as computer technology, the spectrum of interest and capability of participants in the Doctoral program, and its faculty, should be utilized by the particing professional to work together on problems related to their practice. This concept can be expanded into areas of interest and involvement not previously associated with departments of architecture and should optimize the unique capabilities of all concerned. The previous 'GAP' can and should become a bridge.

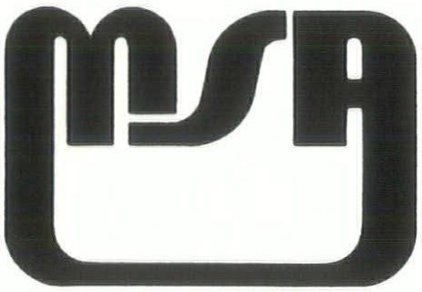
It is obvious then, that the graduates of this department are no longer coming out of the common mold previously described, but are rather significantly different in their professional interest and capabilities. If one were to take each subject item as outlined in the NCARB examination outline that such breadth has become increasingly more important in the minds of those responsible for making such determinations which in essence define the meaning of 'Architect'. While most architects and educators would agree with such a definition, there nevertheless remains the important question of just how far the law of this land can go in legislating through delegation of responsibility the precise scope of those things the architect must be capable of performing in a responsible manner, and holding him liable under law if he does not. When one examines the vast multiplicity of constraints imposed upon each project through the various and usually conflicting codes, ordinances, agencies, institutions, etc. at all levels of government, it is amazing that anything gets built. It would surely be disasterous, for instance, if

a doctor had to get a permit to perform a specific item of surgery through the mechanism of filing a set of documents describing precisely how he would preceed with such an operation, place a seal of competance upon those documents which certifies that he has been examined under statute and has been found fully qualified in that area, and then to have the documents examined and approved by a group of layman put together by political expediency, who may or may not be qualified under law to perform or evaluate the work described. Yet this is just the situation that architects must function under.

The statistics mentioned in the article by Tom Sedgewick related to the percentages of those who pass design and professional administration are not at all surprising. The profession and society can neither agree upon or define excellence in design, although there is the constant attempt to do so. Even if it were possible to define excellence it would be impossible to legislate it to the satisfaction of all. The city 'UGLY' has been, and still is, being constructed under the control of legislation. The real decisions relative to the what and how of projects to be built are not made by the architects, either in fact or in concept, they can only recommend. When one is examined in the area of professional administration the subject matter is not really a function of professional judgement or interpretation, but rather of factual knowledge. The area of design, on the other hand, can only be that of professional judgement and interpretation, without the constraints of the so-called real world, or the decision makers if you will.

In areas of the examination where professional judgement is the basis for satisfactory performance it follows that all the constraints applicable to the criteria upon which judgement is to be based by comprehensively described and defined. If this is not done then the examination, either graphic or multiple choice, is simply that of opinion or preference, and not of responsible judgement. It must be remembered that the responsibility for examination originates in the police power of the state and not in the concepts determined by those actively involved in the profession as represented by any self-appointed or self-constituted professional organization irrespective of the high purposes and goals of such organizations.

It is however, the responsibility of these professional organizations to participate actively in education and training of the young professional. It is the responsibility of the collective schools of architecture to first of all provide educational experiences which develop an awareness of the scope of knowledge necessary for the construction of buildings, cities, and environments; to provide for the development of appropriate skills in technology and communication; and an ability to seek out and understand the real, not the imposed, needs of the people who will occupy such constructs. Secondly, to provide a rich variety of professional and educational experiences in the process of solving problems, where the emphasis is on the process — not on the product, in order to become fully aware of the consequences of decision making. And finally provide for all the possibility of explorations into all sorts of knowledge either in breadth, or in depth.



# ENHANCING the ENVIRONMENT

## The Saginaw Project

*A talk delivered by William B. Morrison, AIA Friday, March 15, 1974 at the 59th Annual Michigan Society of Architects Convention.*

GSA is the business arm of the government. We provide supplies, equipment, transportation, records management, office space and other services for the civilian side of the government. GSA operates some 10,000 buildings around the country. During the past five years, the completion rate for new buildings has run from 20 to 60 per year.

Arthur F. Sampson, GSA's administrator, sees our mission as much more than a Sears Roebuck operation for supplies and a real estate operation for office space. He believes our mission and our position as the country's largest landlord provide us with a unique opportunity to exercise constructive leadership.

The world in which we live is changing at a more rapid rate than anyone would have believed possible 10 years ago. Whether we are ready to accept this challenge or not depends to a large extent on peoples' attitudes. Responding to change is an integral part of the way we do business at GSA. I want to share some thoughts with you on how we are meeting the demands of the future that will stimulate some new ideas in the design and construction of buildings.

A challenge has been made to us all:

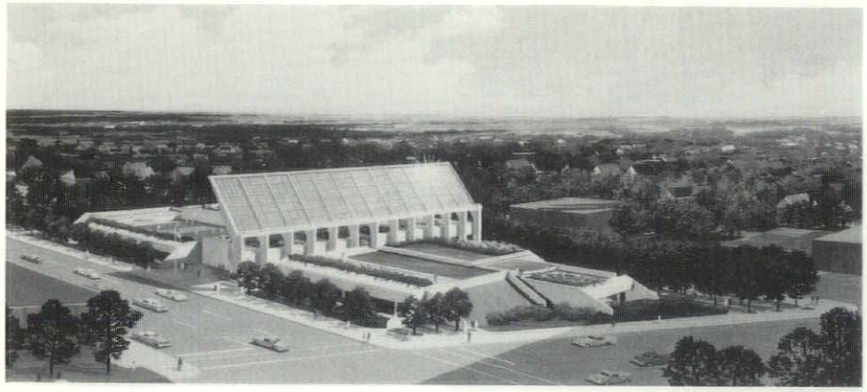
To design new buildings which will provide improved living and working environments within the normal constraints of time and cost...buildings that respond to community and user needs functionally and aesthetically, during as well as after construction.

At GSA, we have responded to this concern and have tried to meet the challenge. We have identified the need for changes, have recommended changes, and most important, have implemented these changes. We have done this in the areas of fire safety, construction management, the conservation of energy, systems building, and the protection and improvement of the environment. Today, I'd like to concentrate on the latter.

In recent years, we have learned that government buildings must be an instrument of broad scale social and economic progress, that government buildings must respond to the environmental needs of our society. You might say we've raised our consciousness — that is, we see ourselves as users of building space and users of the environment.

The GSA International Environmental Conference on building construction and use, held in April 1972, resulted from a recognition of the need to change our way of building and using government facilities. At that conference, we assembled a distinguished group of construction, scientific and government experts from Canada, Mexico, Austrailia, France, Japan and the United States. These experts produced some 80 specific recommendations for changes in construction methods and building use. Most of the recommendations required substantial changes in the public buildings service's way of doing things.

One of the most far reaching and more exciting recommendations made by the conference was that GSA build Multi-Purpose buildings, to include community facilities, retail stores, restaurants, theaters, and even living accommodations. These possibilities could include many more and this change alone would revolutionize the government building industry. The idea of a 9-to-5 government compound is giving way to the concept of an



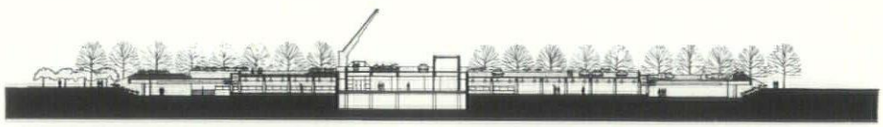
*A number of energy and resource conservation features were included, most prominent of which is an 8,000 square foot flat-plate solar energy collector slanting upward from the building at the optimum angle to the sun at this latitude.*

integrated city has phenomenal impact. New legislation will be required before the full intent of this recommendation could be implemented. However, it is still under active consideration.

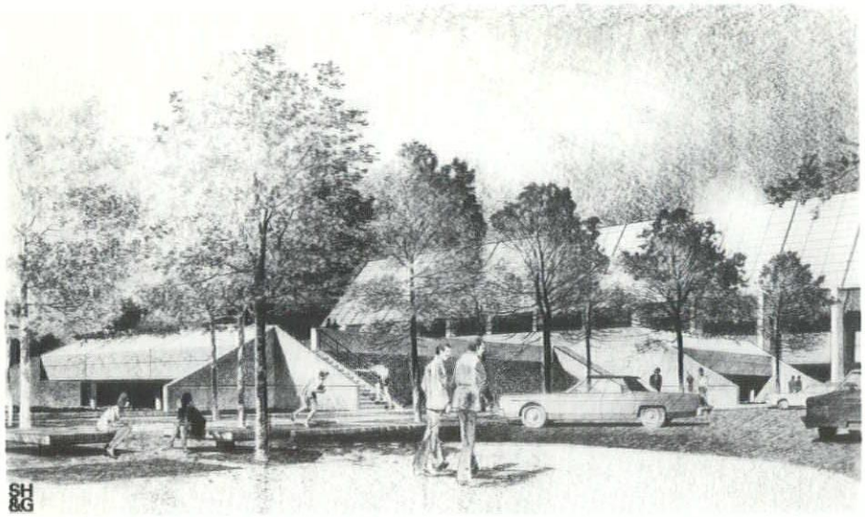
We already are changing our construction specifications as a result of the conference. We now require site grading and drainage plans to be included in the overall design in order to prevent erosion. We have eliminated designs that require riveting in non-shop areas, and have included requirements to minimize pile driving. We have established maximum sound levels specifications and require high noise equipment be enclosed. The specification requiring a construction enclosure, suitable to the surrounding area, designed to control dust, noise, and eliminate ugly shacks around construction sites is one of the noticeable changes.

All of these specific improvements in the construction process are only the beginning. I am proud to say that, while we are working out the specifics, we are also looking forward to a total response to environmental needs — a "Living Laboratory" that will serve all the functions a building should, while allowing us to innovate and test our environmental concepts. The Federal Office Building to be constructed here in Saginaw was designated by Administrator Sampson as the GSA's Environmental Demonstration Building. Those involved with the project undertook a period of research and brainstorming during which there deliberately was not much emphasis placed on what shape, size or height the building mass would assume. One of the first steps taken was a letter written by GSA's Region 5 in Chicago which was sent to more than 700 architectural and engineering schools in colleges and universities across the nation. At the same time, the A/E — Smith, Hinchman & Grylls Associates of Detroit — made similar contracts with private industry. The Region received replies from about 10 percent of the schools contacted. One of the most consistent recommendations received was to construct the building in such a way to least disturb the existing ecology of the site — an invisible building, so to speak. Several proposed a building completely underground, in some cases not for ecological reasons as much as strictly for energy conservation, by reducing or eliminating atmospheric heat gains and/or losses to the space in the building. Overall, 25 percent of those who responded recommended the government build a "Non-building," such as a combination of an underground or partially submerged building with maximum landscaping on the roof to provide a minimum disturbance to the environment.

Finally, after most of the research was gathered and evaluated, the A/E presented to GSA Regional and Central Office Personnel four concepts. Two were high-rise buildings and two were single story concepts. The last concept — the one which was approved — was a single story scheme, wherein approximately five large office areas are set at slightly different floor levels, all of them being somewhat below grade, with the existing grade of the site sloped down to meet the lower floor and glass lines. Approximately one-third of the roof area is to be fully landscaped, with stairs and pedestrian walks and ramps so the public can make use of the area. The other two-thirds of the roof is for required official parking, with sufficient parapet height to effectively screen the parked cars for the pedestrian at eye-level. The postal maneuvering area and dock is below part of the roof parking, yet open for natural ventilation, thus also screening this commercial type of activity from public view.



*The building is one-story, and partially recessed into the ground to provide an extension of the landscaped site onto the building roof. There are three levels of office space, as well as a loading dock level.*



*Approximately half the roof is landscaped with lawn, shrubs, trees, and seating, and the other half is a parking area, screened by a parapet from adjacent streets. After business hours, this parking area becomes a neighborhood playground with various activities suggested by surface graphics.*

This concept frees the balance of the site for development as landscaped plaza and planting areas. If future changes in parking requirements and development of public transportation in saginaw combine to reduce the need for roof parking, it also will be converted to landscaping.

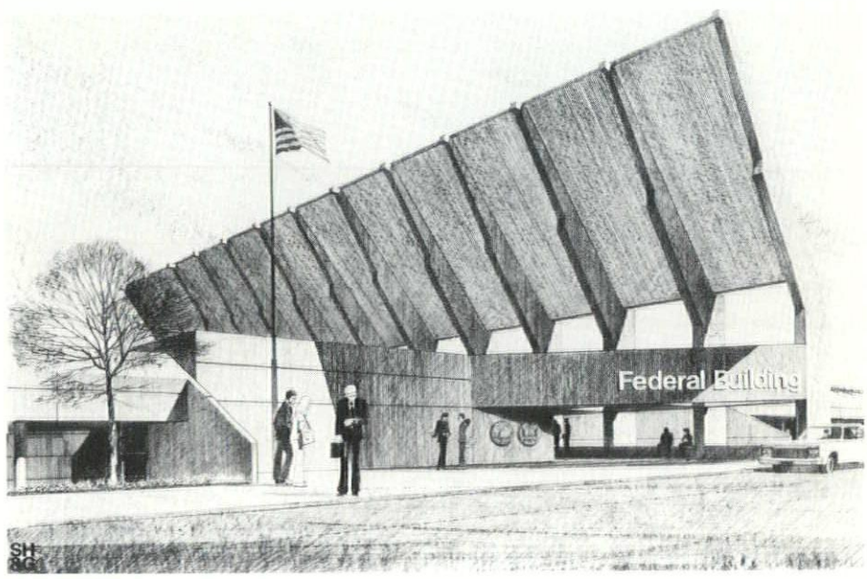
The use of earth berms sloping upward against solid walls, and the extensive landscaping of the site which will flow onto the roof area, will make the federal building site into a major park and recreation area completely integrated into the community. The after-busines hours recreational facilities provided by the parking area should extend the time that the site will be used by nearby residents well into the evening, and provide that constant coming and going so vital to both interest and security. Every effort was made to make the new building an integral part of the daily lives of the people in the neighborhood, a place people would use rather than a place to which they merely would go for government services.

The building will be of reinforced concrete, with post tensioned concrete girders. A typical span would be 63 feet and the bay size for office is 18 feet by 63 feet, which allows the maximum column-free space. Bricks from the existing buildings on the site will be crushed and recycled to provide on material for lobby walls, and another for paving on-grade and on the roof.

Entrance to office levels is at grade from both East and West, into a core containing the post office, joint-use conference rooms, mechanical rooms and service facilities. This area is the only part of the interior that has full height walls. From the core area, three office levels step down into the building. Each office level has a floor to ceiling glass wall, looking into landscaped areas which become visual extensions of interior office space.

A number of energy resource conservation features are included. The most prominent is an 8,000 square foot, flat-plate solar collector slanting upward from the building at the optimum angle to the sun at this latitude. Because of the size of this feature, it could not be hidden, so it was boldly integrated into the building design.

The building, whose gross area is 51,600 square feet and located on a site of 125,500 square feet, is estimated to cost $4,120,000. Working drawings and specifications have been completed and construction is expected to start as soon as funding can be arranged.




*Entrance to the office levels is at grade from both east and west, into a core containing the post office, joint-use conference rooms, mechanical rooms and service facilities. This area is the only part of the interior that has full-height walls.*

Coordination with the development plans of the city of Saginaw made the Federal Building a part of the long range plans for the central business district, as well as a "Real World" example for owners planning new buildings in the near future.

Buildings must be designed to satisfy functional and aesthetic requirements. But not all the identified environmental enhancement ideas can be included in a single project. Sometines, it will not be as practical to go as far with some features as studies indicate desirable, for example roof-top parking. However, **environmental concerns must become a major factor to be considered in the design of all buildings.**

Sometimes the question is asked "Why Have Demonstration Projects?" why not simply introduce new ideas as they arise in on-going projects? There is nothing wrong in introducing new ideas in on-going projects, in fact this in encouraged in GSA.

However, we have found demonstration projects to be an excellent technique for stimulating the interest and imaginative efforts of a diversity of people toward a common goal. Demonstration projects help in getting the designer to challenge accepted practices, to seek out and take full advantage of knowledge already available, to look for innovative solutions, to push the state-of-the-art, and perhaps most important, to work together as a true design team, rather than separate disciplines working in separate offices doing separate portions of a total job.

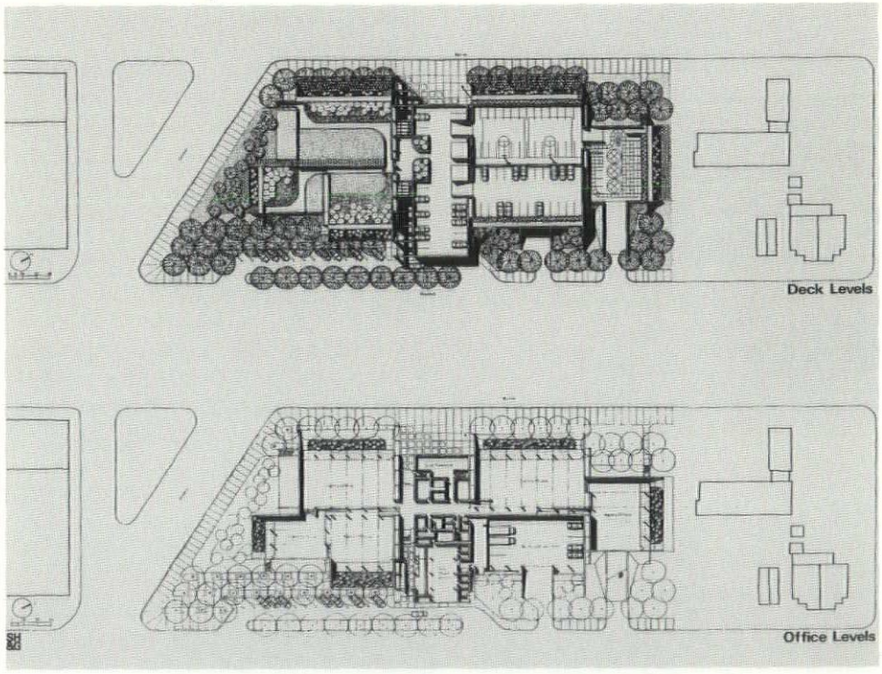
The publicity associated with demonstration projects should not be overlooked. Publicity brings forth ideas and suggestions which otherwise might not be head. Also, the publicity resulting from a successful "Real World" demonstration becomes the vehicle for leadership by example.

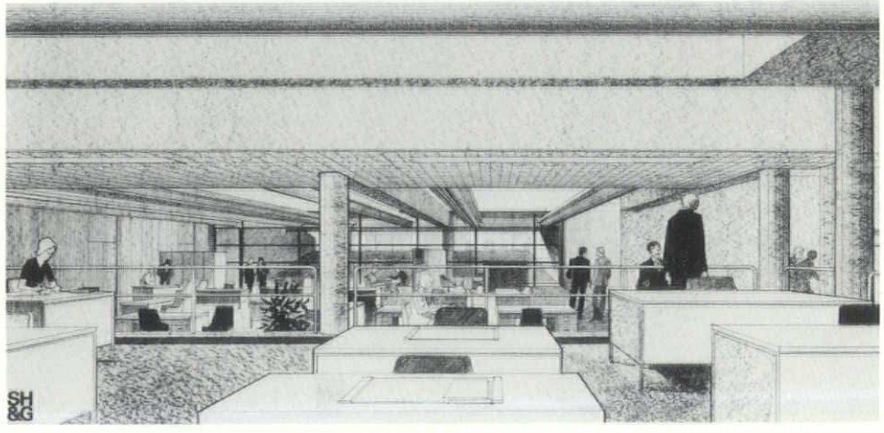
The Saginaw project — and other demonstration projects — seem to serve their purpose well. We look for the continued use of the demonstration project technique by GSA and others, both in the federal and private sector, where it is desirable to bring sharp focus on a problem area with the view toward substantially improved performance.

There are potential pitfalls associated with demonstration projects. Sometimes such projects as the Saginaw, get too much attention and divert efforts that could be made concurrently elsewhere. We are trying to avoid that in GSA.

In concluding, I would like to remind you that one way or another all types of pollution — visual, noise, air, water, transportation, and so forth — are going to become everyone's concern. The sooner each of us begins taking positive steps to enhance our environment, the better off we will be individually and as a nation. Perhaps the most important thing we can do as architects and planners is to develop an attitude or sensitivity to environmental matters that will lead to the success of our efforts.

However, it is important that the design profession look upon these new restraints as challenges and opportunities rather than handicaps. The new challenge to improve the envionment can be met with confidence once we set our minds to it.




*Each office level has a floor-to-ceiling glass wall, looking onto landscaped areas which become visual extensions of the interior office space. These window walls are sheltered by extremely deep [17 foot] overhangs which eliminate sun load on the glass. Offices will have exposed lighting and HVAC duct fixtures, with 75% of the light provided indirectly, bounced off the underside of the concrete roof.*

north american zoo
genesee county
parks and recreation commission

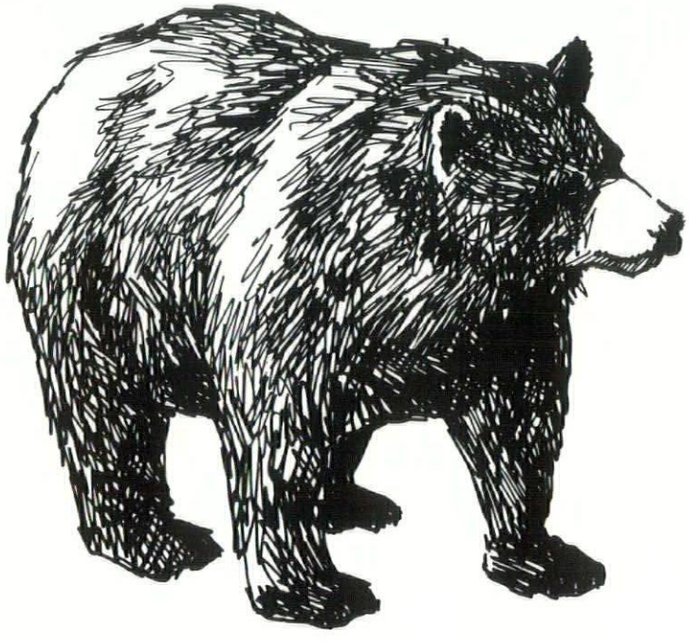
**JJR** Johnson, Johnson & Roy, Inc. Planners/Landscape Architects

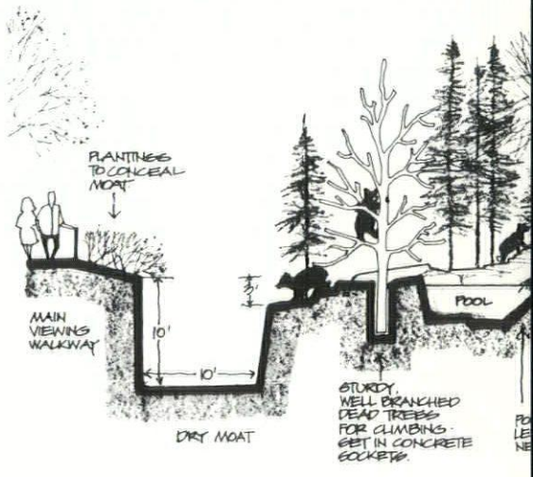
michigan zoo
## black bear

*Euarctos americanus*

Because of their great size and entertaining habits, the American black bear are displayed in a location of prominence within the Michigan Zoo. Near the entrance to this section, the exhibit is moated from the walkway from which it is observed and has an elevated background of simulated rockwork. Attention will be given to the concrete gunite construction of this rockwork to assure a successful representation of geologic rock formations typical to the region. This type of construction is appropriate to the structural requirements of an exhibit surface for animals of this bulk, as well as for sanitary maintenance. Dens, restraining cages and all food and related maintenance service facilities are housed within the elevated rockwork and out of public view.

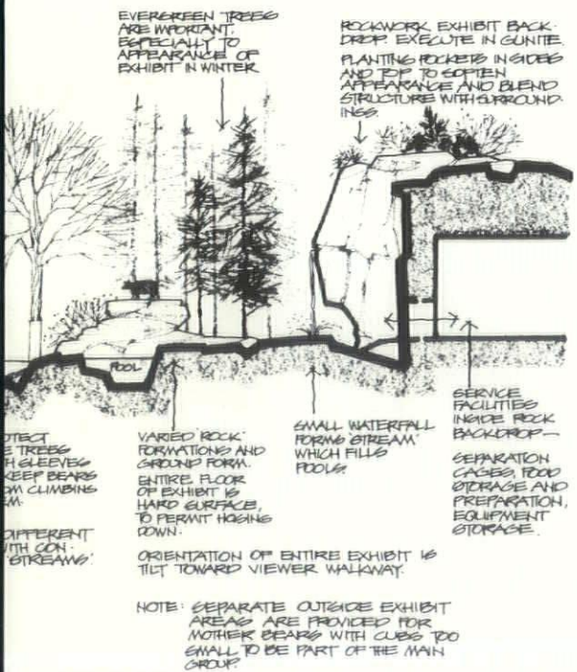
The floor contour of the display area is designed to be generally linear paralleling the viewing zone with terraces at varying elevations. The changing topography provides for climbing elements, drops, slopes, waterfalls, streams and pools together with movable rocks, caves, ledges and tree skeletons. These features provide opportunity for the entertaining activity of these animals. Bears are fond of water and it is provided in a variety of forms including deep pools for swimming with islands within them, shallow pools, running streams and waterfalls. To soften the visual barrenness of the simulated rockwork, as well as to more accurately depict the environment of the American black bear, substantial protected pockets of plant material are introduced into the exhibit. Plantings consist of those materials native to Michigan with evergreen trees predominating. In this manner the expansiveness of the rockwork is subdued, its visual outline softened and a greater spatial definition is achieved.





Moats divide the main exhibit area from individual separation areas. Designed intricately into the total, these four dens permit the segregation of injured animals, problem animals or mother bears with young cubs from the remainder. Although physically separated from the main exhibit, the separation areas appear visually to be parts of it and are funished with similar amenities. At several points along the walkway, the bears may be viewed against a background of whitetail deer and wolves with whom they share similar environments in nature.

In an effort to avoid excessive architectural variety, the design of the bear exhibit is integrated with that of the Small Mammals Building nearby. Because each of these exhibits requires extensive construction and/or manipulation of ground form, their architectural integration permits each to benefit from its adjacency to the other and avoids a spotty pattern of disruption of the natural landscape within which they are situated.



# Calendar

**April 10-11**
Metric Education Seminar, Western Michigan University, Kalamazoo, Michigan

**April 10**
Flint Area Chapter Business Meeting

**April 16**
Flint Area Chapter/Consumers Power Company, Continuing Education Program, Energy Conservation

**April 17**
Detroit Chapter, AIA, Board Meeting

**April 20**
Detroit Chapter, AIA, CEP Workshop Lawrence Institute of Technology

**April 23-25**
1974 National Interfaith Conference on Religion and Architecture, Ohio

**April 25**
MSA Board of Directors Meeting

**April 25**
Detroit Chapter, AIA, Luncheon Meeting Environmental Research Group, Inc.

**May 9**
Flint Area Chapter, AIA, Business Meeting

**May 14**
Flint Area Chapter, AIA, Continuing Education Program



# Ad Index

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# Mt. Pleasant Kmart Uses Stage Construction for Lot

Stage construction, used many times in the past for K Mart shopping centers, was also utilized this past year for their new location in Mt. Pleasant.

A hot mix asphalt base of 4½" in the parking area and 5" in the service drive area was put down early in the year and used for clean, mud-free storage space and as parking space for the various sub-contractors.

When construction of the building was completed The Hicks Company finished the paving job with a wearing course of asphalt and the center was open for business.

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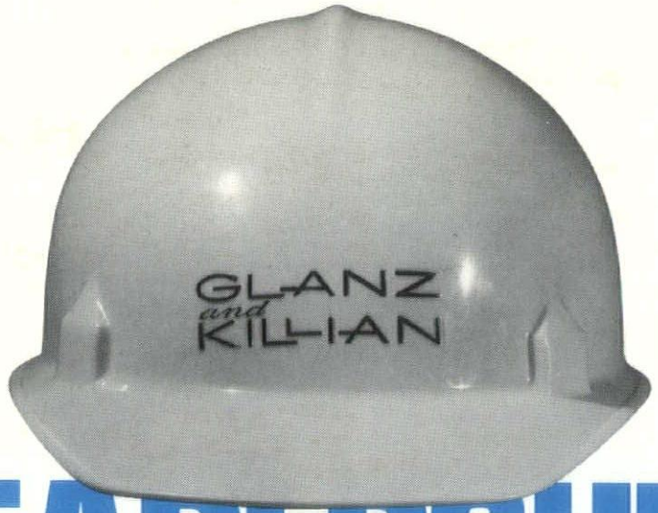


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